Network Working Group Request for Comments: 3300

Obsoletes: 3000

STD: 1

Category: Standards Track

Internet Engineering Task Force
J. Reynolds
R. Braden
S. Ginoza
A. De La Cruz
Editors
November 2002

#### Internet Official Protocol Standards

### Status of this Memo

This memo is an Internet Standard. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (2002). All Rights Reserved.

#### Abstract

This memo contains a snapshot of the state of standardization of protocols used in the Internet as of October 24, 2002. It lists official protocol standards and Best Current Practice RFCs; it is not a complete index to the RFC series. The latest version of this memo is designated STD 1.

### Table of Contents

1.	Overview	2
2.	Contacts	2
2.1.	Internet-Related Organizations	2
2.2.	Request for Comments Editor (RFC Editor) Web Pages	2
2.3		3
2.4	Search and Retrieval Using Email	4
3.	Current Technical Specifications	5
3.1.	Standard Protocols Ordered by STD	5
3.2.		8
3.3.	Draft Standard Protocols	10
3.4.		13
3.5.	Best Current Practice by BCP	34
3.6.	Best Current Practice by RFC	37
3.7.		40
3.8.	Historic Protocols	45
4.	Security Considerations	48
5.	Editors' Addresses	48
6.	Full Copyright Statement	49

#### 1. Overview

This memo contains a snapshot of the state of standardization of protocols used in the Internet, as determined by the Internet Engineering Task Force (IETF). It is an October 24, 2002 snapshot of the current official protocol standards list and the Best Current Practice list, which is updated daily and is available from the RFC Editor Web site.

The RFC Editor publishes Request for Comments (RFC) documents that are the output of the IETF process or are submitted individually via electronic mail. Further information about the RFC series is contained in section 2.1, RFC 2026 and at http://www.rfc-editor.org.

This memo is published by the RFC Editor for the IESG and IAB in accordance with Section 2.1 of "The Internet Standards Process -- Revision 3", RFC 2026, which specifies the rules and procedures by which all Internet standards are set. Sections 3.1 - 3.6 of this memo contain the lists of protocols in each stage of standardization - Standard, Draft Standard, Proposed Standard, Experimental, Historic, as well as Best Current Practice documents. Protocols that are new to this document or have been moved from one protocol level to another, or that differ from the previous edition of this document are marked with an asterisk. Informational RFCs are not included. This memo lists the current standards track, Best Current Practice, Experimental, and Historic protocols; it is not a complete index to RFCs.

#### 2. Resources

This section contains important contact information, for reference.

#### 2.1. Internet-Related Organizations

Internet Architecture Board (IAB) Contact: www.iab.org

Internet Engineering Task Force (IETF) Contact: www.ietf.org

Internet Research Task Force (IRTF) Contact: www.irtf.org

Internet Assigned Numbers Authority (IANA) Contact: www.iana.org

### 2.2. Request for Comments Editor (RFC Editor) Web Pages

The RFC Editor maintains the official repository of all RFCs and indexes to them. The RFC Editor web site is:

http://www.rfc-editor.org.

At this URL, a user can:

(a) Obtain the current "Internet Official Protocol Standards" list. See:

http://www.rfc-editor.org/rfcxx00.html

This hyper-linked listing is updated daily.

(b) Retrieve the latest version of this STD 1 memo. See:

http://www.rfc-editor.org/go.html, and select STD and "1".

(c) Retrieve text of any RFC. See:

http://www.rfc-editor.org/go.html

(d) Search for RFCs by category. See:

http://www.rfc-editor.org/category.html

(e) Search the RFC index for document number, author, title, and/or keywords, and retrieve the text of any matching documents. See:

http://www.rfc-editor.org/rfcsearch.html

RFC information can also be retrieved using FTP or email.

2.3 Retrieval using FTP

RFC-related files may be copied via FTP from the FTP.RFC-EDITOR.ORG computer using the FTP username "anonymous" and password "name@host.domain". An FTP user can:

(a) Retrieve the latest version of this STD 1 memo.

File: "in-notes/std/std1.txt"

(b) Retrieve text of any RFC.

File: "in-notes/rfcnnnn.txt" will retrieve the ASCII version. Some RFCs also have secondary Postscript and/or PDF versions, available from File: "in-notes/rfcnnnn.ps" and/or "in-notes/rfcnnnn.pdf", respectively.

Here "nnnn" is a 1-4 digit RFC number, with no leading zeros.

2.4 Search and Retrieval Using Email

To use the RFC Editor's email-based RFC-INFO service, send a request to:

RFC-INFO@RFC-EDITOR.ORG

In the message body, include your information request. For example, the following message bodies may be used.

(a) To retrieve the latest version of this STD 1 memo:

Retrieve: STD
Doc-ID: STD0001

(b) To retrieve ASCII text of any RFC:

Retrieve: RFC
Doc-ID: RFCnnnn

Here "nnnn" must be filled with leading zeros to 4 digits.

(c) The RFC-INFO@RFC-EDITOR.ORG server provides other capabilities, e.g., search and retrieval based on author, title, and/or keyword. For more information, send the following message body to the server:

help: help

The server will email back the results.

## 3. Current Technical Specifications

# 3.1. Standard Protocols Ordered by STD

Mnemonic	Title	RFC#	STD#
	Internet Official Protocol Standards [Reserved for Assigned Numbers. See RFC 1700 and	3003	1* 2
	RFC 3232.] Requirements for Internet Hosts - Communication	1122	3
	Layers Requirements for Internet Hosts - Application	1123	3
	and Support [Reserved for Router Requirements. See RFC 1812.]		4
IP	Internet Protocol	791	5
ICMP	Internet Control Message Protocol	792	5
	Broadcasting Internet Datagrams	919	5
	Broadcasting Internet datagrams in the presence of subnets	922	5
	Internet Standard Subnetting Procedure	950	5
IGMP	Host extensions for IP multicasting	1112	5
UDP	User Datagram Protocol	768	6
TCP	Transmission Control Protocol	793	7
TELNET	Telnet Protocol Specification	854	_
TELNET	Telnet Option Specifications	855	8
FTP	File Transfer Protocol	959	9
SMTP	Simple Mail Transfer Protocol	821	10
SMTP-SIZE	SMTP Service Extension for Message Size Declaration		10
MAIL	Standard for the format of ARPA Internet text messages	822	11
	[Reserved for Network Time Protocol (NTP). See RFC 1305.]		12
DOMAIN	Domain names - concepts and facilities	1034	13
DOMAIN	Domain names - implementation and specification	1035	13
	[Was Mail Routing and the Domain System. Now Historic.]		14
SNMP	Simple Network Management Protocol (SNMP)	1157	15
SMI	Structure and identification of management information for TCP/IP-based internets	1155	16
Concise-MI	Concise MIB definitions	1212	16
MIB-II	Management Information Base for Network Management of TCP/IP-based internets:MIB-II	1213	17
	[Was Exterior Gateway Protocol (RFC 904). Now Historic.]		18
NETBIOS	Protocol standard for a NetBIOS service on a TCP/UDP transport: Concepts and methods	1001	19
NETBIOS	Protocol standard for a NetBIOS service on a TCP/UDP transport: Detailed specifications	1002	19

IETF Standards Track [Page 5]

Internet Standards

November 2002

RFC 3300

IETF Standards Track [Page 6]

RFC 3300	Internet Standards	November	2002
OSPF2	OSPF Version 2	2328	54
IP-FR	Multiprotocol Interconnect over Frame Relay	2427	55
RIP2	RIP Version 2	2453	56
RIP2-APP	RIP Version 2 Protocol Applicability Statement	1722	57
SMIv2	Structure of Management Information Version	2578	58
	2 (SMIv2)		
CONV-MIB	Textual Conventions for SMIv2	2579	58
CONF-MIB	Conformance Statements for SMIv2	2580	58
RMON-MIB	Remote Network Monitoring Management Information	n 2819	59
	Base		
SMTP-Pipe	SMTP Service Extension for Command Pipelining	2920	60
ONE-PASS	A One-Time Password System	2289	61

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 7]

## 3.2. Standard Protocols Ordered by RFC

Mnemonic	Title	STD‡	RFC#
	Internet Official Protocol Standards	1*	3003*
SMTP-Pipe	SMTP Service Extension for Command Pipelining		2920
RMON-MIB	Remote Network Monitoring Management Information		2819
101011 1112	Base	3,	2017
CONF-MIB	Conformance Statements for SMIv2	58	2580
CONV-MIB	Textual Conventions for SMIv2		2579
SMIv2	Structure of Management Information Version		2578
5111 7 2	2 (SMIv2)	30	2370
RIP2	RIP Version 2	56	2453
IP-FR	Multiprotocol Interconnect over Frame Relay		2427
OSPF2	OSPF Version 2		2328
ONE-PASS	A One-Time Password System		2289
POP3	Post Office Protocol - Version 3		1939
SMTP-SIZE	SMTP Service Extension for Message Size Declaration		1870
RIP2-APP	RIP Version 2 Protocol Applicability Statement		1722
PPP-HDLC	PPP in HDLC-like Framing		1662
PPP-HDLC	The Point-to-Point Protocol (PPP)		1661
ETHER-MIB	Definitions of Managed Objects for the Ethernet- like Interface Types	50	1643
IP-FDDI	Transmission of IP and ARP over FDDI Networks	36	1390
TFTP	The TFTP Protocol (Revision 2)	33	1350
MIB-II	Management Information Base for Network Management	17	1213
	of TCP/IP-based internets:MIB-II		
Concise-MI	Concise MIB definitions	16	1212
IP-SMDS	Transmission of IP datagrams over the SMDS Service	52	1209
IP-ARC	Transmitting IP traffic over ARCNET networks	46	1201
SNMP	Simple Network Management Protocol (SNMP)	15	1157
SMI	Structure and identification of management	16	1155
	information for TCP/IP-based internets		
IP-IPX	Standard for the transmission of 802.2 packets	49	1132
	over IPX networks		
	Requirements for Internet Hosts - Application and Support	3	1123
	Requirements for Internet Hosts - Communication	3	1122
	Layers		
IGMP	Host extensions for IP multicasting	5	1112
IP-NETBIOS	Standard for the transmission of IP datagrams	48	1088
	over NetBIOS networks		
IP-SLIP	Nonstandard for transmission of IP datagrams	47	1055
	over serial lines: SLIP		
IP-HC	Internet Protocol on Network System's HYPERchannel:	45	1044
<del>-</del>	Protocol specification		
IP-IEEE	Standard for the transmission of IP datagrams	43	1042
	over IEEE 802 networks		

IETF Standards Track [Page 8]

		1.0	1005
DOMAIN	Domain names - implementation and specification		1035
DOMAIN	Domain names - concepts and facilities		1034
TP-TCP	ISO transport services on top of the TCP:	35	1006
NEEDTOG	Version 3	1.0	1000
NETBIOS	Protocol standard for a NetBIOS service on	19	1002
NEEDTOG	a TCP/UDP transport: Detailed specifications	1.0	1001
NETBIOS	Protocol standard for a NetBIOS service on	19	1001
	a TCP/UDP transport: Concepts and methods	^	0.50
FTP	File Transfer Protocol	9	959
	Internet Standard Subnetting Procedure	5	950
	Broadcasting Internet datagrams in the presence of subnets	5	922
	Broadcasting Internet Datagrams	5	919
IP-WB	Host Access Protocol specification	40	907
RARP	Reverse Address Resolution Protocol	38	903
IP-EE	Standard for the transmission of IP datagrams	42	895
	over experimental Ethernet networks		
IP-E	Standard for the transmission of IP datagrams	41	894
	over Ethernet networks		
IP-DC	DCN local-network protocols	44	891
TIME	Time Protocol	26	868
DAYTIME	Daytime Protocol	25	867
USERS	Active users	24	866
QUOTE	Quote of the Day Protocol	23	865
CHARGEN	Character Generator Protocol	22	864
DISCARD	Discard Protocol	21	863
ECHO	Echo Protocol	20	862
TOPT-EXTOP	Telnet Extended Options: List Option	32	861
TOPT-TIM	Telnet Timing Mark Option	31	860
TOPT-STAT	Telnet Status Option	30	859
TOPT-SUPP	Telnet Suppress Go Ahead Option	29	858
TOPT-ECHO	Telnet Echo Option	28	857
TOPT-BIN	Telnet Binary Transmission	27	856
TELNET	Telnet Option Specifications	8	855
TELNET	Telnet Protocol Specification	8	854
ARP	Ethernet Address Resolution Protocol: Or converting	37	826
	network protocol addresses to 48.bit Ethernet		
	address for transmission on Ethernet hardware		
MAIL	Standard for the format of ARPA Internet text	11	822
	messages		
SMTP	Simple Mail Transfer Protocol	10	821
TCP	Transmission Control Protocol	7	793
ICMP	Internet Control Message Protocol	5	792
IP	Internet Protocol	5	791
UDP	User Datagram Protocol	6	768

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 9]

### 3.3. Draft Standard Protocols

Mnemonic	Title	RFC#
	Content Language Headers (Extensible Markup Language) XML-Signature Syntax and Processing	3282* 3275*
MINFAX-IM MIN-PSTN RADIUS	Minimal FAX address format in Internet Mail Minimal GSTN address format in Internet Mail Remote Authentication Dial In User Service (RADIUS)	3192* 3191* 2865
INTERGRMIB	The Interfaces Group MIB	2863
SNMP	Host Resources MIB Definitions of Managed Objects for Extensible SNMP Agents	2790 2742*
	Agent Extensibility (AgentX) Protocol Version 1 HTTP Authentication: Basic and Digest Access Authentication	2741* 2617
HTTP VACM-SNMP	Hypertext Transfer Protocol HTTP/1.1  View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	2616 2575
USM-SNMPV3	User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3)	2574
SNMP-APP MPD-SNMP	SNMP Applications Message Processing and Dispatching for the	2573 2572
	Simple Network Management Protocol (SNMP)	
ARCH-SNMP	An Architecture for Describing SNMP Management Frameworks	2571
ICMPv6	Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification	2463
IPV6-AUTO	IPv6 Stateless Address Autoconfiguration	2462
IPV6-ND	Neighbor Discovery for IP Version 6 (IPv6)	2461
IPV6	Internet Protocol, Version 6 (IPv6) Specification	2460
URI-GEN	Uniform Resource Identifiers (URI): Generic Syntax	2396
IARP	Inverse Address Resolution Protocol	2390
TN3270E	TN3270 Enhancements	2355
TFTP-Opt TFTP-Blk	TFTP Timeout Interval and Transfer Size Options TFTP Blocksize Option	2349 2348
TFTP-Ext	TFTP Option Extension	2347
UTF-8	UTF-8, a transformation format of ISO 10646	2279
	DHCP Options and BOOTP Vendor Extensions	2132
DHCP	Dynamic Host Configuration Protocol	2131
FRAME-MIB	Management Information Base for Frame Relay DTEs Using SMIv2	2115
IP-HIPPI	IP over HIPPI	2067
MIME-CONF	Multipurpose Internet Mail Extensions (MIME) Part Five: Conformance Criteria and Examples	2049

IETF Standards Track [Page 10]

MIME-MSG	MIME (Multipurpose Internet Mail Extensions) Part Three: Message Header Extensions for Non-ASCII Text	2047
MIME-MEDIA	Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types	2046
MIME	Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies	2045
PPP-CHAP	PPP Challenge Handshake Authentication Protocol (CHAP)	1994
PPP-MP	The PPP Multilink Protocol (MP)	1990
PPP-LINK	PPP Link Quality Monitoring	1989
	Management Information Base for Version 2	1907
011111 12 1112	of the Simple Network Management Protocol (SNMPv2)	1007
TRANS-MIB	Transport Mappings for Version 2 of the Simple Network Management Protocol (SNMPv2)	1906
OPS-MIB	Protocol Operations for Version 2 of the Simple Network Management Protocol (SNMPv2)	1905
CON-MD5	The Content-MD5 Header Field	1864
OSPF-MIB	OSPF Version 2 Management Information Base	1850
XDR	XDR: External Data Representation Standard	1832
	The String Representation of Standard Attribute	1778
	Syntaxes	
	Lightweight Directory Access Protocol	1777
BGP-4-APP	Application of the Border Gateway Protocol	1772
	in the Internet	
BGP-4	A Border Gateway Protocol 4 (BGP-4)	1771
PPP-DNCP	The PPP DECnet Phase IV Control Protocol (DNCP)	1762
802.5-MIB	IEEE 802.5 MIB using SMIv2	1748
RIP2-MIB	RIP Version 2 MIB Extension	1724
SIP-MIB	Definitions of Managed Objects for SMDS Interfaces	1694
	using SMIv2	
	Definitions of Managed Objects for Parallel-	1660
	printer-like Hardware Devices using SMIv2	
	Definitions of Managed Objects for RS-232-	1659
	like Hardware Devices using SMIv2	
	Definitions of Managed Objects for Character	1658
	Stream Devices using SMIv2	
BGP-4-MIB	Definitions of Managed Objects for the Fourth	1657
	Version of the Border Gateway Protocol (BGP-4) using SMIv2	
	SMTP Service Extension for 8bit-MIMEtransport	1652
OSI-NSAP	Guidelines for OSI NSAP Allocation in the Internet	1629
ISO-TS-ECH	An Echo Function for CLNP (ISO 8473)	1575
DECNET-MIB	DECnet Phase IV MIB Extensions	1559
	Clarifications and Extensions for the Bootstrap	1542
	Protocol	
	Interoperation Between DHCP and BOOTP	1534
BRIDGE-MIB	Definitions of Managed Objects for Bridges	1493

IETF Standards Track [Page 11]

IP-X.25	Multiprotocol Interconnect on X.25 and ISDN in the Packet Mode	1356
NTPV3	Network Time Protocol (Version 3) Specification, Implementation	1305
FINGER	The Finger User Information Protocol	1288
IP-MTU	Path MTU discovery	1191
	Proposed Standard for the Transmission of	1188
	IP Datagrams over FDDI Networks	
TOPT-LINE	Telnet Linemode Option	1184
NICNAME	NICNAME/WHOIS	954
BOOTP	Bootstrap Protocol	951

RFC 3300

Internet Standards November 2002

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 12]

## 3.4. Proposed Standard Protocols

Mnemonic	Title	RFC#
	Session Description Protocol (SDP) Simple Capability Declaration	3407*
NAPTR	Dynamic Delegation Discovery System (DDDS) Part Four: The Uniform Resource Identifiers (URI)	3404*
NAPTR	Dynamic Delegation Discovery System (DDDS) Part Three: The Domain Name System (DNS) Database	3403*
NAPTR	Dynamic Delegation Discovery System (DDDS) Part Two: The Algorithm	3402*
RMON-MIB	Remote Network Monitoring MIB Protocol Identifier Reference Extensions	3395*
	Real-time Transport Protocol (RTP) Payload for Comfort Noise (CN)	3389*
IPP-E-T	Internet Printing Protocol (IPP): The 'collection' attribute syntax	3382*
IPP-E-T	Internet Printing Protocol (IPP): Job Progress Attributes	3381*
IPP-E-T	Internet Printing Protocol (IPP): Job and Printer Set Operations	3380*
	Delegated Path Validation and Delegated Path Discovery Protocol Requirements Lightweight Directory Access Protocol (v3): Technical	3379* 3377*
	Specification	3376*
IGMP	Internet Group Management Protocol, Version 3 Layer Two Tunneling Protocol "L2TP" Management Information Base	3371*
	Cryptographic Message Syntax (CMS) Algorithms	3370*
	Cryptographic Message Syntax (CMS)	3369*
	The 'go' URI Scheme for the Common Name Resolution Protocol	3368*
	Common Name Resolution Protocol (CNRP)	3367*
	Real-time Facsimile (T.38) - image/t38 MIME Sub- type Registration	3362*
	Dynamic Host Configuration Protocol (DHCP-for-IPv4) Option for Session Initiation Protocol (SIP) Servers	3361*
	Layer Two Tunnelling Protocol (L2TP) Over ATM Adaptation Layer 5 (AAL5)	3355*
	Small Computer Systems Interface protocol over the Internet (iSCSI) Requirements and Design Considerations	3347*
MOBILEIPSU	IP Mobility Support for IPv4	3344*
	The Application Exchange (APEX) Option Party Pack, Part Deux!	3342*
	The Application Exchange (APEX) Access Service	3341*
	The Application Exchange Core	3340*

Internet Standards

November 2002

RFC 3300

IETF Standards Track [Page 14]

Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile

	Definitions of Managed Objects for High Bit-Rate DSL - 2nd generation (HDSL2) and Single-Pair High-Speed Digital Subscriber Line (SHDSL) Lines Processing	3276*
	Compressed Data Content Type for Cryptographic Message Syntax (CMS)	3274*
	Remote Network Monitoring Management Information Base for High Capacity Networks	3273*
	Multi-Protocol Label Switching (MPLS) Support of Differentiated Services	3270*
	Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)	3268*
	Real-Time Transport Protocol (RTP) Payload Format and File Storage Format for the Adaptive Multi- Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs	3267*
	Support for IPv6 in Session Description Protocol (SDP)	3266*
SIP	Session Initiation Protocol (SIP)-Specific Event Notification	3265*
SIP	An Offer/Answer Model with Session Description Protocol (SDP)	3264*
SIP	Session Initiation Protocol (SIP): Locating SIP Servers	3263*
SIP	Reliability of Provisional Responses in Session Initiation Protocol (SIP)	3262*
SIP	SIP: Session Initiation Protocol	3261*
	The DOCSIS (Data-Over-Cable Service Interface Specifications) Device Class DHCP (Dynamic Host Configuration Protocol) Relay Agent Information Sub-option	3256*
	Extending Point-to-Point Protocol (PPP) over Synchronous Optical NETwork/Synchronous Digital Hierarchy (SONET/SDH) with virtual concatenation, high order and low order payloads	3255*
	Versioning Extensions to WebDAV (Web Distributed Authoring and Versioning)	3253*
FFIF	Tag Image File Format Fax eXtended (TIFF-FX) - image/tiff-fx MIME Sub-type Registration	3250*
	An Expedited Forwarding PHB (Per-Hop Behavior)	3246*
	RObust Header Compression (ROHC): A Link-Layer	3242*
	Assisted Profile for IP/UDP/RTP	
	Robust Header Compression (ROHC) over PPP	3241*
	Definitions of Managed Objects for Scheduling	3231*
	Management Operations	
	Instance Digests in HTTP	3230*
	Delta encoding in HTTP	3229*

	DNSSEC and IPv6 A6 aware server/resolver message size requirements	3226*
	Indicating Resolver Support of DNSSEC	3225*
SLP	Vendor Extensions for Service Location Protocol,	3224*
	Version 2	
	Telephony Routing over IP (TRIP)	3219*
	LSP Modification Using CR-LDP	3214*
	Constraint-Based LSP Setup using LDP	3212*
	RSVP-TE: Extensions to RSVP for LSP Tunnels	3209*
	SMTP Service Extension for Secure SMTP over Transport	3207*
	Layer Security	
	The SYS and AUTH POP Response Codes	3206*
	MIME media types for ISUP and QSIG Objects	3204*
	Definitions of Managed Objects for Frame Relay	3202*
	Service Level Definitions	
	Definitions of Managed Objects for Circuit to	3201*
	Interface Translation	
	Reliable Delivery for syslog	3195*
	Securing L2TP using IPsec	3193*
	RTP Payload Format for 12-bit DAT Audio and 20-	3190*
	and 24-bit Linear Sampled Audio	
	RTP Payload Format for DV (IEC 61834) Video	3189*
	Reuse of CMS Content Encryption Keys	3185
	Identity Representation for RSVP	3182*
	Signaled Preemption Priority Policy Element	3181*
	Aggregation of RSVP for IPv4 and IPv6 Reservations	3175
IPCOMP	IP Payload Compression Protocol (IPComp)	3173
	The Addition of Explicit Congestion Notification	3168
	(ECN) to IP	
	Definitions of Managed Objects for the Delegation	3165
	of Management Scripts	
	RADIUS and IPv6	3162
TSA	Internet X.509 Public Key Infrastructure Time-Stamp	3161
	Protocol (TSP)	
PIB	Structure of Policy Provisioning Information (SPPI)	3159
MIME-PGP	MIME Security with OpenPGP	3156
	PPP Multiplexing	3153
	Transmission of IPv6 Packets over IEEE 1394 Networks	3146
	L2TP Disconnect Cause Information	3145
	Remote Monitoring MIB Extensions for Interface	3144
	Parameters Monitoring	
	Per Hop Behavior Identification Codes	3140
	The Congestion Manager	3124
	Extensions to IPv6 Neighbor Discovery for Inverse	3122
	Discovery Specification	
	A More Loss-Tolerant RTP Payload Format for MP3 Audio	3119
	Authentication for DHCP Messages	3118
	Mobile IP Vendor/Organization-Specific Extensions	3115

	Service Location Protocol Modifications for IPv6	3111
	RSA/SHA-1 SIGs and RSA KEYs in the Domain Name System (DNS)	3110
	Conventions for the use of the Session Description Protocol (SDP) for ATM Bearer Connections	3108
SDP	Carrying Label Information in BGP-4	3107
RSVP	RSVP Cryptographic Authentication Updated Message Type Value	3097
	RObust Header Compression (ROHC): Framework and four profiles	3095
	DNS Security Extension Clarification on Zone Status	3090
COPS-PR	COPS Usage for Policy Provisioning (COPS-PR)	3084
	Mapping the BEEP Core onto TCP	3081
BEEP	The Blocks Extensible Exchange Protocol Core	3080
	A Link-Layer Tunneling Mechanism for Unidirectional Links	3077
	DHC Load Balancing Algorithm	3074
L2TP-FR	Layer Two Tunneling Protocol (L2TP) over Frame Relay	3070
	An Anycast Prefix for 6to4 Relay Routers	3068
BGP-ASC	Autonomous System Confederations for BGP	3065
	LDAP Password Modify Extended Operation	3062
CIM	Policy Core Information Model Version 1 Specification	3060
SLPv2	Attribute List Extension for the Service Location Protocol	3059
	ISDN Q.921-User Adaptation Layer	3057
	Connection of IPv6 Domains via IPv4 Clouds	3056
	Management Information Base for the PINT Services Architecture	3055
	TN3270E Service Location and Session Balancing	3049
	RTP Payload Format for ITU-T Recommendation G.722.1	3047
	DHCP Relay Agent Information Option	3046
	Enhancing TCP's Loss Recovery Using Limited Transmit	3042
	Privacy Extensions for Stateless Address Autoconfiguration in IPv6	3041
	Internet X.509 Public Key Infrastructure Qualified Certificates Profile	3039
	VCID Notification over ATM link for LDP	3038
	LDP Specification	3036
	MPLS using LDP and ATM VC Switching	3035
	Use of Label Switching on Frame Relay Networks Specification	3034
	The Assignment of the Information Field and Protocol Identifier in the Q.2941 Generic Identifier and Q.2957 User-to-user Signaling for the Internet Protocol	3033
	MPLS Label Stack Encoding	3032
MPLS	Multiprotocol Label Switching Architecture	3031

IETF Standards Track [Page 17]

	SMTP Service Extensions for Transmission of Large	3030
	and Binary MIME Messages	
	Sieve: A Mail Filtering Language	3028
	Reverse Tunneling for Mobile IP, revised	3024
	XML Media Types	3023
	Using 31-Bit Prefixes on IPv4 Point-to-Point Links	3021
	Definitions of Managed Objects for Monitoring and	3020
	Controlling the UNI/NNI Multilink Frame Relay	
	Function	
	IP Version 6 Management Information Base for The	3019
	Multicast Listener Discovery Protocol	
	XML DTD for Roaming Access Phone Book	3017
	RTP Payload Format for MPEG-4 Audio/Visual Streams	3016
MEGACO	Megaco Protocol Version 1.0	3015
	Notification Log MIB	3014
	Mobile IPv4 Challenge/Response Extensions	3012
	The IPv4 Subnet Selection Option for DHCP	3011
NFSv4	NFS version 4 Protocol	3010
	Registration of parityfec MIME types	3009
DNSSEC	Domain Name System Security (DNSSEC) Signing Authority	3008
	Secure Domain Name System (DNS) Dynamic Update	3007
	Integrated Services in the Presence of Compressible	3006
	Flows	
	The User Class Option for DHCP	3004
	The audio/mpeg Media Type	3003
	Specification of the Null Service Type	2997
	Format of the RSVP DCLASS Object	2996
	Computing TCP's Retransmission Timer	2988
	Registration of Charset and Languages Media Features	2987
	Tags	
	Use of the CAST-128 Encryption Algorithm in CMS	2984
	Distributed Management Expression MIB	2982
	Event MIB	2981
	The SIP INFO Method	2976
	IMAP4 ID extension	2971
	HTTP State Management Mechanism	2965
	RSVP Refresh Overhead Reduction Extensions	2961
	Stream Control Transmission Protocol	2960
	Real-Time Transport Protocol Management Information	2959
	Base	
	Definitions of Managed Objects for Monitoring and	2955
	Controlling the Frame Relay/ATM PVC Service	
	Interworking Function	
FR-MIB	Definitions of Managed Objects for Frame Relay Service	2954
	Telnet Encryption: CAST-128 64 bit Cipher Feedback	2950
	Telnet Encryption: CAST-128 64 bit Output Feedback	2949
	Telnet Encryption: DES3 64 bit Output Feedback	2948
	Telnet Encryption: DES3 64 bit Cipher Feedback	2947

		0016
	Telnet Data Encryption Option	2946
	The SRP Authentication and Key Exchange System	2945
	Telnet Authentication: SRP	2944
	TELNET Authentication Using DSA	2943
	Telnet Authentication: Kerberos Version 5	2942
TOPT-AUTH	Telnet Authentication Option	2941
	Definitions of Managed Objects for Common Open	2940
	Policy Service (COPS) Protocol Clients	
	Identifying Composite Media Features	2938
	The Name Service Search Option for DHCP	2937
IOTP-HTTP	Internet Open Trading Protocol (IOTP) HTTP Supplement	2935
	Internet Group Management Protocol MIB	2933
	IPv4 Multicast Routing MIB	2932
	DNS Request and Transaction Signatures ( SIG(0)s )	2931
TKEY-RR	Secret Key Establishment for DNS (TKEY RR)	2930
	Definitions of Managed Objects for Remote Ping,	2925
		2323
	Traceroute, and Lookup Operations	0010
	List-Id: A Structured Field and Namespace for the	2919
	Identification of Mailing Lists	
	Route Refresh Capability for BGP-4	2918
	E.164 number and DNS	2916
	MIME Content Types in Media Feature Expressions	2913
	Indicating Media Features for MIME Content	2912
IPP-M-S	Internet Printing Protocol/1.1: Model and Semantics	2911
IPP-E-T	Internet Printing Protocol/1.1: Encoding and Transport	2910
	MADCAP Multicast Scope Nesting State Option	2907
RMON-MIB	Remote Network Monitoring MIB Protocol Identifier	2895
141011 1112	Reference	
	Router Renumbering for IPv6	2894
TRANS-IPV6	Transition Mechanisms for IPv6 Hosts and Routers	2893
	LDAP Control Extension for Server Side Sorting of Search Results	2891
		2000
	Key and Sequence Number Extensions to GRE	2890
SACK	An Extension to the Selective Acknowledgement (SACK) Option for TCP	2883
	Content Feature Schema for Internet Fax (V2)	2879
PPP-BCP	PPP Bridging Control Protocol (BCP)	2878
	Diffie-Hellman Proof-of-Possession Algorithms	2875
	TCP Processing of the IPv4 Precedence Field	2873
	Application and Sub Application Identity Policy	2872
	Element for Use with RSVP	
	The Inverted Stack Table Extension to the Interfaces Group MIB	2864
	RTP Payload Format for Real-Time Pointers	2862
MEXT-BGP4	Multiprotocol Extensions for BGP-4	2858
MEAT DGF 4	The Use of HMAC-RIPEMD-160-96 within ESP and AH	2857
<b></b>		
	Textual Conventions for Additional High Capacity	2856
	Data Types	

	DHCP for IEEE 1394	2855
	Generic Security Service API Version 2: Java Bindings	2853
	Deliver By SMTP Service Extension	2852
LDIF	The LDAP Data Interchange Format (LDIF) - Technical	2849
	Specification	2017
	The PINT Service Protocol: Extensions to SIP and	2848
	SDP for IP Access to Telephone Call Services	2010
LIPKEY	LIPKEY - A Low Infrastructure Public Key Mechanism	2847
DILKEI	Using SPKM	2017
	GSTN Address Element Extensions in E-mail Services	2846
TSIG	Secret Key Transaction Authentication for DNS (TSIG)	2845
	Capabilities Advertisement with BGP-4	2842
	Definitions of Managed Objects for the Fabric Element	2837
	in Fibre Channel Standard	2037
GSN	IP and ARP over HIPPI-6400 (GSN)	2835
GSN	, ,	2834
	ARP and IP Broadcast over HIPPI-800	
	RTP Payload for DTMF Digits, Telephony Tones and	2833
	Telephony Signals	2021
	Using Digest Authentication as a SASL Mechanism	2831
LDAP	Lightweight Directory Access Protocol (v3): Extension	2830
	for Transport Layer Security Authentication Methods for LDAP	2020
		2829
MAIL	Internet Message Format	2822*
SMTP	Simple Mail Transfer Protocol	2821*
	Integrated Service Mappings on IEEE 802 Networks	2815
	SBM (Subnet Bandwidth Manager): A Protocol for	2814
	RSVP-based Admission Control over IEEE 802-	
	style networks	0006
	URLs for Telephone Calls	2806
	Certificate Management Messages over CMS	2797
	BGP Route Reflection - An Alternative to Full Mesh	2796
	IBGP	0.004
	Mobile IP Network Access Identifier Extension for IPv4	2794
	RTP Payload for Text Conversation	2793
	Mail Monitoring MIB	2789
	Network Services Monitoring MIB	2788
	Definitions of Managed Objects for the Virtual	2787
	Router Redundancy Protocol	0.704
GRE	Generic Routing Encapsulation (GRE)	2784
DNS-SRV	A DNS RR for specifying the location of services	2782
	(DNS SRV)	0006
MZAP	Multicast-Scope Zone Announcement Protocol (MZAP)	2776
RPSL	Routing Policy System Replication	2769
NAT-PT	Network Address Translation - Protocol Translation (NAT-PT)	2766
SIIT	Stateless IP/ICMP Translation Algorithm (SIIT)	2765
	RSVP Extensions for Policy Control	2750
	COPS usage for RSVP	2749
	<b>-</b>	-

IETF Standards Track [Page 20]

COPS	The COPS (Common Open Policy Service) Protocol	2748
	RSVP Cryptographic Authentication	2747
	RSVP Operation Over IP Tunnels	2746
	RSVP Diagnostic Messages	2745
	Generic Security Service API Version 2 : C-bindings	2744
	Generic Security Service Application Program Interface	2743
	Version 2, Update 1	
	OSPF for IPv6	2740
	Calendar Attributes for vCard and LDAP	2739
	Corrections to "A Syntax for Describing Media Feature	2738
	Sets"	
	Entity MIB (Version 2)	2737
	NHRP Support for Virtual Private Networks	2735
	IPv4 over IEEE 1394	2734
	An RTP Payload Format for Generic Forward Error	2733
	Correction	
	Format for Literal IPv6 Addresses in URL's	2732
MADCAP	Multicast Address Dynamic Client Allocation Protocol	2730
	(MADCAP)	
	The Transmission of IP Over the Vertical Blanking	2728
	Interval of a Television Signal	
	PGP Authentication for RIPE Database Updates	2726
	Routing Policy System Security	2725
	Traffic Flow Measurement: Meter MIB	2720
TLS	Addition of Kerberos Cipher Suites to Transport	2712
	Layer Security (TLS)	
	IPv6 Router Alert Option	2711
MLD-IPv6	Multicast Listener Discovery (MLD) for IPv6	2710
	Integrated Services Mappings for Low Speed Networks	2688
	PPP in a Real-time Oriented HDLC-like Framing	2687
	The Multi-Class Extension to Multi-Link PPP	2686
VPNI	Virtual Private Networks Identifier	2685
	Multiprotocol Encapsulation over ATM Adaptation	2684
	Layer 5	
	A Round-trip Delay Metric for IPPM	2681
	A One-way Packet Loss Metric for IPPM	2680
	A One-way Delay Metric for IPPM	2679
IPPM-MET	IPPM Metrics for Measuring Connectivity	2678
NHRP-MIB	Definitions of Managed Objects for the NBMA Next	2677
	Hop Resolution Protocol (NHRP)	
	IPv6 Jumbograms	2675
	Definitions of Managed Objects for Bridges with	2674
	Traffic Classes, Multicast Filtering and Virtual	
	LAN Extensions	
	Non-Terminal DNS Name Redirection	2672
EDNS0	Extension Mechanisms for DNS (EDNS0)	2671
	Radio Frequency (RF) Interface Management Information	2670
	Base for MCNS/DOCSIS compliant RF interfaces	

	DOCSIS Cable Device MIB Cable Device Management	2669
	Information Base for DOCSIS compliant Cable	
	Modems and Cable Modem Termination Systems	
MAU-MIB	Definitions of Managed Objects for IEEE 802.3 Medium	2668
	Attachment Units (MAUs)	0.66
	IP Tunnel MIB	2667
	Definitions of Managed Objects for the Ethernet- like Interface Types	2665
	Definitions of Managed Objects for the ADSL Lines	2662
L2TP	Layer Two Tunneling Protocol "L2TP"	2661
	RTP Payload Format for PureVoice(tm) Audio	2658
	CIP Transport Protocols	2653
	MIME Object Definitions for the Common Indexing Protocol (CIP)	2652
CIP	The Architecture of the Common Indexing Protocol (CIP)	2651
	The Text/Plain Format Parameter	2646
ODMR-SMTP	ON-DEMAND MAIL RELAY (ODMR) SMTP with Dynamic IP	2645
021111 011111	Addresses	
	Internationalization of the File Transfer Protocol	2640
	Enhanced Security Services for S/MIME	2634
	S/MIME Version 3 Message Specification	2633
	S/MIME Version 3 Certificate Handling	2632
	Diffie-Hellman Key Agreement Method	2631
	IP and ARP over Fibre Channel	2625
	NFS Version 2 and Version 3 Security Issues and	2623
	the NFS Protocol's Use of RPCSEC_GSS and Kerberos	
	V5	
RPSL	Routing Policy Specification Language (RPSL)	2622
	RADIUS Authentication Server MIB	2619
	RADIUS Authentication Client MIB	2618
	RADIUS Authentication Client MIB PPP over SONET/SDH	2618 2615
	RADIUS Authentication Client MIB	2618
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0	2618 2615
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol	2618 2615 2613 2610
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes	2618 2615 2613 2610 2609
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB	2618 2615 2613 2610
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP	2618 2615 2613 2610 2609 2605
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS	2618 2615 2613 2610 2609 2605 2603
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP	2618 2615 2613 2610 2609 2605 2603 2602 2601
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB	2618 2615 2613 2610 2609 2605 2603 2602
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group Use of Language Codes in LDAP	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597 2596
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group Use of Language Codes in LDAP Using TLS with IMAP, POP3 and ACAP	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597 2596 2595
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group Use of Language Codes in LDAP Using TLS with IMAP, POP3 and ACAP Definitions of Managed Objects for WWW Services	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597 2596 2595 2594
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched    Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group Use of Language Codes in LDAP Using TLS with IMAP, POP3 and ACAP Definitions of Managed Objects for WWW Services Transmission of IPv6 Packets over Frame Relay Networks	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597 2596 2595 2594
	RADIUS Authentication Client MIB PPP over SONET/SDH Remote Network Monitoring MIB Extensions for Switched     Networks Version 1.0 DHCP Options for Service Location Protocol Service Templates and Service: Schemes Directory Server Monitoring MIB ILMI-Based Server Discovery for NHRP ILMI-Based Server Discovery for MARS ILMI-Based Server Discovery for ATMARP An Expedited Forwarding PHB Assured Forwarding PHB Group Use of Language Codes in LDAP Using TLS with IMAP, POP3 and ACAP Definitions of Managed Objects for WWW Services Transmission of IPv6 Packets over Frame Relay Networks Specification	2618 2615 2613 2610 2609 2605 2603 2602 2601 2598 2597 2596 2595 2594 2590

	Internet X.509 Public Key Infrastructure LDAPv2 Schema Internet X.509 Public Key Infrastructure Operational Protocols: FTP and HTTP	2587 2585
	Definitions of Managed Objects for APPN/HPR in IP Networks	2584
TCP-CC	TCP Congestion Control	2581
SNMP	Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network Management Framework	2576
APP-MIB	Application Management MIB	2564
	DHCP Option to Disable Stateless Auto-Configuration in IPv4 Clients	2563
TN2370E-RT	Definitions of Protocol and Managed Objects for TN3270E Response Time Collection Using SMIv2 (TN3270E-RT-MIB)	2562
	Base Definitions of Managed Objects for TN3270E Using SMIv2	2561
PKIX	X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP	2560
	Internet X.509 Public Key Infrastructure Operational Protocols - LDAPv2	2559
	Definitions of Managed Objects for the SONET/SDH Interface Type	2558
MHTML	MIME Encapsulation of Aggregate Documents, such as HTML (MHTML)	2557
	SMTP Service Extension for Authentication	2554
	Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing	2545
DHK-DNS	Storage of Diffie-Hellman Keys in the Domain Name System (DNS)	2539
SC-DNS	Storing Certificates in the Domain Name System (DNS)	2538
	DSA KEYs and SIGs in the Domain Name System (DNS)	2536
DNS-SECEXT	Domain Name System Security Extensions	2535
	Media Features for Display, Print, and Fax	2534
	A Syntax for Describing Media Feature Sets	2533
	Extended Facsimile Using Internet Mail	2532
	Indicating Supported Media Features Using Extensions to DSN and MDN	2530
	Transmission of IPv6 over IPv4 Domains without Explicit Tunnels	2529
	Reserved IPv6 Subnet Anycast Addresses	2526
WEBDAV	HTTP Extensions for Distributed Authoring WEBDAV	2518
ATM-MIBMAN	Definitions of Managed Objects for ATM Management	2515
	Definitions of Textual Conventions and	2514
	OBJECT-IDENTITIES for ATM Management	
	Managed Objects for Controlling the Collection and Storage of Accounting Information for	2513
	Connection-Oriented Networks	

IETF Standards Track [Page 23]

	Accounting Information for ATM Networks	2512
X.509-CRMF	Internet X.509 Certificate Request Message Format	2512
PKICMP	Internet X.509 Public Key Infrastructure Certificate	2511
PRICMP	Management Protocols	2310
IPCOM-PPP	IP Header Compression over PPP	2509
	Compressing IP/UDP/RTP Headers for Low-Speed Serial	2508
	Links	2300
	IP Header Compression	2507
	Transmission of IPv6 Packets over ARCnet Networks	2497
	Definitions of Managed Object for the DS3/E3 Interface	2496
DS2-E2-MID	Type	2490
	Definitions of Managed Objects for the DS1, E1,	2495
	DS2 and E2 Interface Types	2175
	Definitions of Managed Objects for the DSO and	2494
	DSO Bundle Interface Type	2171
	Textual Conventions for MIB Modules Using Performance	2493
	History Based on 15 Minute Intervals	2175
TPv/6ATMNET	IPv6 over ATM Networks	2492
IPv6-NBMA	IPv6 over Non-Broadcast Multiple Access (NBMA)	2491
II VO IVDITI	networks	2171
NAI	The Network Access Identifier	2486
	DHCP Option for The Open Group's User Authentication	2485
	Protocol	2103
	PPP LCP Internationalization Configuration Option	2484
	Gateways and MIME Security Multiparts	2480
	The Simple and Protected GSS-API Negotiation Mechanism	2478
	Message Submission	2476
	Definition of the Differentiated Services Field	2474
	(DS Field) in the IPv4 and IPv6 Headers	
	Generic Packet Tunneling in IPv6 Specification	2473
IPv6-PPP	IP Version 6 over PPP	2472
	Transmission of IPv6 Packets over Token Ring Networks	2470
	Transmission of IPv6 Packets over FDDI Networks	2467
ICMPv6-MIB	Management Information Base for IP Version 6: ICMPv6	2466
	Group	
	Management Information Base for IP Version 6: Textual	2465
	Conventions and General Group	
	Transmission of IPv6 Packets over Ethernet Networks	2464
EBN-MIB	Definitions of Managed Objects for Extended Border	2457
	Node	
	Definitions of Managed Objects for APPN TRAPS	2456
APPN-MIB	Definitions of Managed Objects for APPN	2455
	IP Version 6 Management Information Base for the	2454
	User Datagram Protocol	
	IP Version 6 Management Information Base for the	2452
	Transmission Control Protocol	
	The ESP CBC-Mode Cipher Algorithms	2451
POP3-EXT	POP3 Extension Mechanism	2449

IETF Standards Track [Page 24]

IMIP	<pre>iCalendar Message-Based Interoperability Protocol   (iMIP)</pre>	2447
ITIP	iCalendar Transport-Independent Interoperability Protocol (iTIP) Scheduling Events, BusyTime, To-dos and Journal Entries	2446
ICALENDAR	Internet Calendaring and Scheduling Core Object Specification (iCalendar)	2445
OTP-SASL	The One-Time-Password SASL Mechanism	2444
	OpenPGP Message Format	2440
	BGP Route Flap Damping	2439
	RTP Payload Format for JPEG-compressed Video	2435
	RTP Payload Format for BT.656 Video Encoding	2431
	RTP Payload Format for the 1998 Version of ITU-	2429
	T Rec. H.263 Video (H.263+)	0.400
	FTP Extensions for IPv6 and NATs	2428
	vCard MIME Directory Profile	2426
TXT-DIR	A MIME Content-Type for Directory Information	2425
CONT-DUR	Content Duration MIME Header Definition	2424
MIME-VPIM	VPIM Voice Message MIME Sub-type Registration	2423
MIME-ADPCM	Toll Quality Voice - 32 kbit/s ADPCM MIME Sub-type Registration	2422
MIME-VP2	Voice Profile for Internet Mail - version 2	2421
3DESE	The PPP Triple-DES Encryption Protocol (3DESE)	2420
DESE-bis	The PPP DES Encryption Protocol, Version 2 (DESE-bis)	2419
	Definitions of Managed Objects for Multicast over UNI 3.0/3.1 based ATM Networks	2417
	The NULL Encryption Algorithm and Its Use With IPsec	2410
IKE	The Internet Key Exchange (IKE)	2409
ISAKMP	Internet Security Association and Key Management Protocol (ISAKMP)	2408
ISAKMPSEC	The Internet IP Security Domain of Interpretation for ISAKMP	2407
ESP	IP Encapsulating Security Payload (ESP)	2406
ESPDES-CBC	The ESP DES-CBC Cipher Algorithm With Explicit IV	2405
	The Use of HMAC-SHA-1-96 within ESP and AH	2404
	The Use of HMAC-MD5-96 within ESP and AH	2403
IP-AUTH	IP Authentication Header	2402
IPSEC	Security Architecture for the Internet Protocol	2401
DATA-URL	The "data" URL scheme	2397
CIDMID-URL	Content-ID and Message-ID Uniform Resource Locators	2392
	Feature negotiation mechanism for the File Transfer Protocol	2389
	Returning Values from Forms: multipart/form-data	2388
MIME-RELAT	The MIME Multipart/Related Content-type	2387
	Protection of BGP Sessions via the TCP MD5 Signature Option	2385
POP-URL	POP URL Scheme	2384

IETF Standards Track [Page 25]

	Interoperation of Controlled-Load Service and Guaranteed Service with ATM	2381
	RSVP over ATM Implementation Requirements	2380
	An IPv6 Aggregatable Global Unicast Address Format	2374
	IP Version 6 Addressing Architecture	2373
m+D113		
TIPV3	Transaction Internet Protocol Version 3.0	2371
OSPF-LSA	The OSPF Opaque LSA Option	2370
	The Use of URLs as Meta-Syntax for Core Mail List	2369
	Commands and their Transport through Message Header Fields	
URLMAILTO	The mailto URL scheme	2368
PPP-AAL	PPP Over AAL5	2364
PPP-FUNI	PPP Over FUNI	2363
	IMAP4 UIDPLUS extension	2359
IMAP4NAME	IMAP4 Namespace	2342
VRRP	Virtual Router Redundancy Protocol	2338
		2335
NHRP-SCSP	A Distributed NHRP Service Using SCSP	
SCSP	Server Cache Synchronization Protocol (SCSP)	2334
	NHRP Protocol Applicability Statement	2333
NHRP	NBMA Next Hop Resolution Protocol (NHRP)	2332
UNI-SIG	ATM Signalling Support for IP over ATM - UNI	2331
	Signalling 4.0 Update	
SDP	SDP: Session Description Protocol	2327
RTSP	Real Time Streaming Protocol (RTSP)	2326
IPOA-MIB	Definitions of Managed Objects for Classical IP	2320
	and ARP Over ATM Using SMIv2 (IPOA-MIB)	
DNS-NCACHE	Negative Caching of DNS Queries (DNS NCACHE)	2308
SMFAX-IM	A Simple Mode of Facsimile Using Internet Mail	2305
	<del>-</del>	2303
FFIF	File Format for Internet Fax	
EMF-MDN	An Extensible Message Format for Message Disposition Notifications	2298
OR-ADD	Representing the O/R Address hierarchy in the X.500	2294
	Directory Information Tree	
SUBTABLE	Representing Tables and Subtrees in the X.500	2293
	Directory	
	Mobile-IPv4 Configuration Option for PPP IPCP	2290
SLM-APP	Definitions of System-Level Managed Objects for	2287
DIM AFF	Applications	2207
	<del></del>	0004
PPP-EAP	PPP Extensible Authentication Protocol (EAP)	2284
	Definitions of Managed Objects for IEEE 802.12	2266
	Repeater Devices	
	A Summary of the X.500(96) User Schema for use	2256
	with LDAPv3	
LDAP-URL	The LDAP URL Format	2255
STR-LDAP	The String Representation of LDAP Search Filters	2254
	Lightweight Directory Access Protocol (v3): UTF-	2253
	8 String Representation of Distinguished Names	

IETF Standards Track [Page 26]

LDAP3-ATD	Lightweight Directory Access Protocol (v3): Attribute Syntax Definitions	2252
LDAPV3	Lightweight Directory Access Protocol (v3)	2251
RTP-MPEG	RTP Payload Format for MPEG1/MPEG2 Video	2250
	Using Domains in LDAP/X.500 Distinguished Names	2247
	The TLS Protocol Version 1.0	2246
SASL-ANON	Anonymous SASL Mechanism	2245
ACAP	ACAP Application Configuration Access Protocol	2244
OTP-ER	OTP Extended Responses	2243
NETWAREIP	NetWare/IP Domain Name and Information	2242
DHCP-NDS	DHCP Options for Novell Directory Services	2241
HPR-MIB	Definitions of Managed Objects for HPR using SMIv2	2238
ABNF	Augmented BNF for Syntax Specifications: ABNF	2234
DLUR-MIB	Definitions of Managed Objects for DLUR using SMIv2	2232
MIME-EXT	MIME Parameter Value and Encoded Word Extensions:	2231
	Character Sets, Languages, and Continuations	
FTPSECEXT	FTP Security Extensions	2228
	Simple Hit-Metering and Usage-Limiting for HTTP	2227
	IP Broadcast over ATM Networks	2226
IP-ATM	Classical IP and ARP over ATM	2225
SASL	Simple Authentication and Security Layer (SASL)	2222
	IMAP4 Login Referrals	2221
	A Common Schema for the Internet White Pages Service	2218
	General Characterization Parameters for Integrated	2215
	Service Network Elements	
	Integrated Services Management Information Base	2214
	Guaranteed Service Extensions using SMIv2	
	Integrated Services Management Information Base using SMIv2	2213
GQOS	Specification of Guaranteed Quality of Service	2212
	Specification of the Controlled-Load Network Element Service	2211
RSVP-IS	The Use of RSVP with IETF Integrated Services	2210
RSVP-IPSEC	RSVP Extensions for IPSEC Data Flows	2207
RSVP-MIB	RSVP Management Information Base using SMIv2	2206
RSVP	Resource ReSerVation Protocol (RSVP) Version	2205
	1 Functional Specification	
RPCSEC-GSS	RPCSEC_GSS Protocol Specification	2203
RTP-RAD	RTP Payload for Redundant Audio Data	2198
IMAPPOPAU	IMAP/POP AUTHorize Extension for Simple	2195
	Challenge/Response	
IMAP4MAIL	IMAP4 Mailbox Referrals	2193
IMAP-URL	IMAP URL Scheme	2192
	RTP Payload Format for H.263 Video Streams	2190
	Communicating Presentation Information in Internet	2183
	Messages: The Content-Disposition Header Field	0105
DNS-CLAR	Clarifications to the DNS Specification	2181
IMAP4-IDLE	IMAP4 IDLE command	2177

SLP	Service Location Protocol Use of an X.500/LDAP directory to support MIXER	2165 2164
DNS-MCGAM	address mapping Using the Internet DNS to Distribute MIXER Conformant Global Address Mapping (MCGAM)	2163
	Carrying PostScript in X.400 and MIME	2160
	A MIME Body Part for FAX	2159
	X.400 Image Body Parts	2158
	Mapping between X.400 and RFC-822/MIME Message Bodies	2157
MIXER	MIXER (Mime Internet X.400 Enhanced Relay): Mapping between X.400 and RFC 822/MIME	2156
MAIL-SERV	Mailbox Names for Common Services, Roles and Functions	2142
URN-SYNTAX	URN Syntax	2141
DNS-UPDATE	Dynamic Updates in the Domain Name System (DNS UPDATE)	2136
DC-MIB	Dial Control Management Information Base using SMIv2	2128
ISDN-MIB	ISDN Management Information Base using SMIv2	2127
ITOT	ISO Transport Service on top of TCP (ITOT)	2126
BAP-BACP	The PPP Bandwidth Allocation Protocol (BAP) / The	2125
	PPP Bandwidth Allocation Control Protocol (BACP)	
VEMMI-URL	VEMMI URL Specification	2122
ROUT-ALERT	IP Router Alert Option	2113
802.3-MIB	Definitions of Managed Objects for IEEE 802.3 Repeater Devices using SMIv2	2108
PPP-NBFCP	The PPP NetBIOS Frames Control Protocol (NBFCP)	2097
TABLE-MIB	IP Forwarding Table MIB	2096
RIP-TRIG	Triggered Extensions to RIP to Support Demand Circuits	2091
IMAP4-LIT	IMAP4 non-synchronizing literals	2088
IMAP4-QUO	IMAP4 QUOTA extension	2087
IMAP4-ACL	IMAP4 ACL extension	2086
HMAC-MD5	HMAC-MD5 IP Authentication with Replay Prevention	2085
RIP2-MD5	RIP-2 MD5 Authentication	2082
RIPNG-IPV6	RIPng for IPv6	2080
URI-ATT	Definition of an X.500 Attribute Type and an Object Class to Hold Uniform Resource Identifiers (URIs)	2079
MIME-MODEL	The Model Primary Content Type for Multipurpose Internet Mail Extensions	2077
IMAPV4	Internet Message Access Protocol - Version 4rev1	2060
URLZ39.50	Uniform Resource Locators for Z39.50	2056
SNANAU-APP	Definitions of Managed Objects for APPC using SMIv2	2051
PPP-SNACP	The PPP SNA Control Protocol (SNACP)	2043
SMTP-ENH	SMTP Service Extension for Returning Enhanced Error	2034
·- 061	Codes	0000
RTP-H.261	RTP Payload Format for H.261 Video Streams	2032
RTP-CELLB	RTP Payload Format of Sun's CellB Video Encoding	2029
SPKM	The Simple Public-Key GSS-API Mechanism (SPKM)	2025
DLSW-MIB	Definitions of Managed Objects for Data Link Switching using SMIv2	2024

MULTI-UNI	Support for Multicast over UNI 3.0/3.1 based ATM Networks	2022
RMON-MIB	Remote Network Monitoring Management Information Base Version 2 using SMIv2	2021
802.12-MIB	IEEE 802.12 Interface MIB	2020
TCP-ACK	TCP Selective Acknowledgement Options	2018
URL-ACC	Definition of the URL MIME External-Body Access-Type	2017
MIME-PGP	MIME Security with Pretty Good Privacy (PGP)	2015
MIB-UDP	SNMPv2 Management Information Base for the User	2013
1112 021	Datagram Protocol using SMIv2	2013
MIB-TCP	SNMPv2 Management Information Base for the	2012
	Transmission Control Protocol using SMIv2	
MIB-IP	SNMPv2 Management Information Base for the Internet	2011
	Protocol using SMIv2	
MOBILEIPMI	The Definitions of Managed Objects for IP Mobility	2006
	Support using SMIv2	
	Applicability Statement for IP Mobility Support	2005
MINI-IP	Minimal Encapsulation within IP	2004
IPENCAPIP	IP Encapsulation within IP	2003
BGP-COMM	BGP Communities Attribute	1997
DNS-NOTIFY	A Mechanism for Prompt Notification of Zone Changes (DNS NOTIFY)	1996
DNS-IZT	Incremental Zone Transfer in DNS	1995
SMTP-ETRN	SMTP Service Extension for Remote Message Queue	1985
	Starting	
SNA	Serial Number Arithmetic	1982
MTU-IPV6	Path MTU Discovery for IP version 6	1981
PPP-FRAME	PPP in Frame Relay	1973
PPP-ECP	The PPP Encryption Control Protocol (ECP)	1968
GSSAPI-KER	The Kerberos Version 5 GSS-API Mechanism	1964
PPP-CCP	The PPP Compression Control Protocol (CCP)	1962
	GSS-API Authentication Method for SOCKS Version 5	1961
	Username/Password Authentication for SOCKS V5	1929
SOCKSV5	SOCKS Protocol Version 5	1928
WHOIS++M	How to Interact with a Whois++ Mesh	1914
WHOIS++A	Architecture of the Whois++ Index Service	1913
DSN	An Extensible Message Format for Delivery Status Notifications	1894
EMS-CODE	Enhanced Mail System Status Codes	1893
MIME-RPT	The Multipart/Report Content Type for the Reporting	1892
	of Mail System Administrative Messages	
SMTP-DSN	SMTP Service Extension for Delivery Status	1891
	Notifications	
RTP-AV	RTP Profile for Audio and Video Conferences with	1890
	Minimal Control	
RTP	RTP: A Transport Protocol for Real-Time Applications	1889
DNS-IPV6	DNS Extensions to support IP version 6	1886
MIME-Sec	MIME Object Security Services	1848

MIME-Encyp	Security Multiparts for MIME: Multipart/Signed and Multipart/Encrypted	1847
WHOIS++	Architecture of the WHOIS++ service	1835
	Binding Protocols for ONC RPC Version 2	1833
RPC	RPC: Remote Procedure Call Protocol Specification	1831
	Version 2 The ESP DES-CBC Transform	1829
	IP Authentication using Keyed MD5	1828
	Requirements for IP Version 4 Routers	1812
URL	Relative Uniform Resource Locators	1808
CLDAP	Connection-less Lightweight X.500 Directory Access Protocol	1798
OSPF-DC	Extending OSPF to Support Demand Circuits	1793
OSI-Dir	Using the OSI Directory to Achieve User Friendly Naming	1781
MIME-EDI	MIME Encapsulation of EDI Objects	1767
XNSCP	The PPP XNS IDP Control Protocol (XNSCP)	1764
BVCP	The PPP Banyan Vines Control Protocol (BVCP)	1763
Print-MIB	Printer MIB	1759
ATM	ATM Signaling Support for IP over ATM	1755
IPNG	The Recommendation for the IP Next Generation Protocol	1752
802.5-SSR	IEEE 802.5 Station Source Routing MIB using SMIv2	1749
SDLCSMIv2	Definitions of Managed Objects for SNA Data Link Control (SDLC) using SMIv2	1747
AT-MIB	AppleTalk Management Information Base II	1742
MacMIME	MIME Encapsulation of Macintosh Files - MacMIME	1740
URL	Uniform Resource Locators (URL)	1738
POP3-AUTH	POP3 AUTHentication command	1734
IMAP4-AUTH	IMAP4 Authentication Mechanisms	1731
RDBMS-MIB	Relational Database Management System (RDBMS) Management Information Base (MIB) using SMIv2	1697
MODEM-MIB	Modem Management Information Base (MIB) using SMIv2	1696
TMUX	Transport Multiplexing Protocol (TMux)	1692
SNANAU-MIB	Definitions of Managed Objects for SNA NAUs using SMIv2	1666
PPP-TRANS	PPP Reliable Transmission	1663
	Postmaster Convention for X.400 Operations	1648
UPS-MIB	UPS Management Information Base	1628
PPP-ISDN	PPP over ISDN	1618
PPP-X25	PPP in X.25	1598
	The OSPF NSSA Option	1587
	Multicast Extensions to OSPF	1584
RIP-DC	Extensions to RIP to Support Demand Circuits	1582
	Telnet Environment Option	1572
PPP-LCP	PPP LCP Extensions	1570
CIPX	Compressing IPX Headers Over WAN Media (CIPX)	1553
IPXCP	The PPP Internetworking Packet Exchange Control Protocol (IPXCP)	1552

IETF Standards Track [Page 30]

SRB-MIB	Definitions of Managed Objects for Source Routing Bridges	1525
CIDR-STRA	Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy	1519
CIDR-ARCH CIDR	An Architecture for IP Address Allocation with CIDR Applicability Statement for the Implementation of Classless Inter-Domain Routing (CIDR)	1518 1517
	Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units (MAUs)	1515
	Token Ring Extensions to the Remote Network Monitoring MIB	1513
FDDI-MIB	FDDI Management Information Base	1512
KERBEROS	The Kerberos Network Authentication Service (V5)	1510
	X.400 Use of Extended Character Sets	1502
HARPOON	Rules for downgrading messages from X.400/88 to	1496
	X.400/84 when MIME content-types are present in the messages	
Ecuita	Equivalences between 1988 X.400 and RFC-822 Message	1494
Equiv	Bodies	1494
IDPR	Inter-Domain Policy Routing Protocol Specification:	1479
	Version 1	
IDPR-ARCH	An Architecture for Inter-Domain Policy Routing	1478
PPP/Bridge	The Definitions of Managed Objects for the Bridge Network Control Protocol of the Point-to-Point Protocol	1474
PPP/IPMIB	The Definitions of Managed Objects for the IP Network Control Protocol of the Point-to-Point Protocol	1473
PPP/SECMIB	The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol	1472
PPP/LCPMIB	The Definitions of Managed Objects for the Link Control Protocol of the Point-to-Point Protocol	1471
IP-TR-MC	IP Multicast over Token-Ring Local Area Networks	1469
X25-MIB	SNMP MIB extension for Multiprotocol Interconnect over X.25	1461
SNMPv2	Introduction to version 2 of the Internet-standard Network Management Framework	1441
PEM-KEY	Privacy Enhancement for Internet Electronic Mail: Part IV	1424
PEM-ALG	Privacy Enhancement for Internet Electronic Mail: Part III	1423
PEM-CKM	Privacy Enhancement for Internet Electronic Mail: Part II	1422
PEM-ENC	Privacy Enhancement for Internet Electronic Mail: Part I	1421
SNMP-IPX	SNMP over IPX	1420
SNMP-AT	SNMP over AppleTalk	1419
SNMP-OSI	SNMP over OSI	1418
FTP	FTP-FTAM Gateway Specification	1415

IETF Standards Track [Page 31]

IDENT-MIB	Identification MIB	1414
IDENT	Identification Protocol	1413
	Default Route Advertisement In BGP2 and BGP3 Version	1397
	of The Border Gateway Protocol	
SNMP-X.25	SNMP MIB Extension for the X.25 Packet Layer	1382
SNMP-LAPB	SNMP MIB Extension for X.25 LAPB	1381
PPP-ATCP	The PPP AppleTalk Control Protocol (ATCP)	1378
	The PPP OSI Network Layer Control Protocol (OSINLCP)	1377
TOPT-RFC	Telnet Remote Flow Control Option	1372
	Applicability Statement for OSPF	1370
PPP-IPCP	The PPP Internet Protocol Control Protocol (IPCP)	1332
	X.400 1988 to 1984 downgrading	1328
TCP-EXT	TCP Extensions for High Performance	1323
NETFAX	A File Format for the Exchange of Images in the	1314
	Internet	
FDDI-MIB	FDDI Management Information Base	1285
	Encoding Network Addresses to Support Operation	1277
	over Non-OSI Lower Layers	
	Replication and Distributed Operations extensions	1276
	to provide an Internet Directory using X.500	4054
	The COSINE and Internet X.500 Schema	1274
BGP-MIB	Definitions of Managed Objects for the Border Gateway Protocol: Version 3	1269
ICMP-ROUT	ICMP Router Discovery Messages	1256
STD-MIBs	Reassignment of experimental MIBs to standard MIBs	1239
IPX-IP	Tunneling IPX traffic through IP networks	1234
IS-IS	Use of OSI IS-IS for routing in TCP/IP and dual	1195
15 15	environments	
IP-CMPRS	Compressing TCP/IP headers for low-speed serial links	1144
TOPT-XDL	Telnet X display location option	1096
TOPT-TERM	Telnet terminal-type option	1091
TOPT-TS	Telnet terminal speed option	1079
TOPT-NAWS	Telnet window size option	1073
TOPT-X.3	Telnet X.3 PAD option	1053
TOPT-DATA	Telnet Data Entry Terminal option: DODIIS	1043
	implementation	
TOPT-3270	Telnet 3270 regime option	1041
NNTP	Network News Transfer Protocol	977
TOPT-TLN	Telnet terminal location number option	946
TOPT-OM	Output marking Telnet option	933
TOPT-TACAC	TACACS user identification Telnet option	927
TOPT-EOR	Telnet end of record option	885
TOPT-SNDL	Telnet send-location option	779
TOPT-SUPO	Telnet SUPDUP-Output option	749
TOPT-SUP	Telnet SUPDUP option	736
TOPT-BYTE	Revised Telnet byte macro option	735

TOPT-LOGO	Telnet logout option	727
TOPT-REM	Remote Controlled Transmission and Echoing Telnet	726
	option	
TOPT-EXT	Telnet extended ASCII option	698

RFC 3300 Internet Standards November 2002

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 33]

## 3.5. Best Current Practice by BCP

Mnemonic	Title	RFC#	BCP#
	Best Current Practices	1818	1
	Addendum to RFC 1602 Variance Procedure	1871	. 2
	Variance for The PPP Compression Control Protocol	1915	3
	and The PPP Encryption Control Protocol		
	An Appeal to the Internet Community to Return	1917	4
	Unused IP Networks (Prefixes) to the IANA		_
	Address Allocation for Private Internets	1918	5
	Guidelines for creation, selection, and	1930	
	registration of an Autonomous System (AS)	1750	O
	Implications of Various Address Allocation	2008	7
	Policies for Internet Routing	2000	,
	IRTF Research Group Guidelines and Procedures	2014	. 8
	The Internet Standards Process Revision 3	2014	
	IAB and IESG Selection, Confirmation, and Recall	2727	Τ0
	Process: Operation of the Nominating and Recall		
	Committees		
	The Organizations Involved in the IETF Standards	2028	11
	Process		
	Internet Registry IP Allocation Guidelines	2050	
	Multipurpose Internet Mail Extensions (MIME) Part	2048	13
	Four: Registration Procedures		
	Key words for use in RFCs to Indicate Requirement	2119	14
	Levels		
	Deployment of the Internet White Pages Service	2148	15
	Selection and Operation of Secondary DNS Servers	2182	16
	Use of DNS Aliases for Network Services	2219	17
	IETF Policy on Character Sets and Languages	2277	18
	IANA Charset Registration Procedures	2978	19
	Classless IN-ADDR.ARPA delegation	2317	20
	Expectations for Computer Security Incident	2350	21
	Response		
	Guide for Internet Standards Writers	2360	22
	Administratively Scoped IP Multicast	2365	23
	RSVP over ATM Implementation Guidelines	2379	24
	IETF Working Group Guidelines and Procedures	2418	25
	Guidelines for Writing an IANA Considerations	2434	26
	Section in RFCs		
	Advancement of MIB specifications on the IETF	2438	2.7
	Standards Track		
	Enhancing TCP Over Satellite Channels using	2488	28
	Standard Mechanisms	2100	
	Procedure for Defining New DHCP Options	2489	29
	Anti-Spam Recommendations for SMTP MTAs	2505	
	Media Feature Tag Registration Procedure	2506	
<b>_</b>	media reacute tay keyistiation flocedule	2300	21

IETF Standards Track [Page 34]

 Reserved Top Level DNS Names	2606	32
 URN Namespace Definition Mechanisms	2611	33
 Changing the Default for Directed Broadcasts in Routers	2644	34
 Registration Procedures for URL Scheme Names	2717	35
 Guidelines for Writers of RTP Payload Format Specifications	2736	36
 IANA Allocation Guidelines For Values In the Internet Protocol and Related Headers	2780	37
 Network Ingress Filtering: Defeating Denial of Service Attacks which employ IP Source Address Spoofing	2827	38
 Charter of the Internet Architecture Board (IAB)	2850	39
 Root Name Server Operational Requirements	2870	
 Congestion Control Principles	2914	
 Domain Name System (DNS) IANA Considerations	2929	
 Procedures and IANA Guidelines for Definition of	2939	
New DHCP Options and Message Types		
 Use of HTTP State Management	2964	44
 IETF Discussion List Charter	3005	45
 Recommended Internet Service Provider Security Services and Procedures	3013	46
 Tags for the Identification of Languages	3066	47
 End-to-end Performance Implications of Slow Links	3150	48
 Delegation of IP6.ARPA	3152	49
 End-to-end Performance Implications of Links with Errors	3155	
 IANA Guidelines for IPv4 Multicast Address Assignments	3171	51
 Management Guidelines & Operational Requirements for the Address and Routing Parameter Area Domain ("arpa")	3172	52
 GLOP Addressing in 233/8	3180	53
 IETF Guidelines for Conduct	3184	
 Guidelines for Evidence Collection and Archiving	3227	
 On the use of HTTP as a Substrate	3205	
 IANA Considerations for IPv4 Internet Group Management Protocol (IGMP)	3228	
 Defining the IETF	3233	58
 A Transient Prefix for Identifying Profiles under	3349	
Development		
 Inappropriate TCP Resets Considered Harmful	3360	
 Strong Security Requirements for Internet Engineering Task Force Standard Protocols	3365	61
 Advice to link designers on link Automatic Repeat reQuest (ARQ)	3366	62
 Session Initiation Protocol (SIP) for Telephones (SIP-T): Context and Architectures	3372	63

RFC 3300	Internet Standards	November 2002
	Internet Assigned Numbers Authority (IANA)	3383 64
	Considerations for the Lightweight Directory	
	Access Protocol (LDAP)	
	Dynamic Delegation Discovery System (DDDS) Part	3405 65
	Five: URI.ARPA Assignment Procedures	
	Uniform Resource Names (URN) Namespace Definition	on 3406 66
	Mechanisms	

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 36]

# 3.6. Best Current Practice by RFC

Mnemonic	Title	BCP#	RFC#
	Uniform Resource Names (URN) Namespace Definition Mechanisms	66	3406
	Dynamic Delegation Discovery System (DDDS) Part Five: URI.ARPA Assignment Procedures	65	3405
	Internet Assigned Numbers Authority (IANA) Considerations for the Lightweight Directory Access Protocol (LDAP)	64	3383
	Session Initiation Protocol (SIP) for Telephones (SIP-T): Context and Architectures	63	3372
	Advice to link designers on link Automatic Repeat reQuest (ARQ)	62	3366
	Strong Security Requirements for Internet Engineering Task Force Standard Protocols	61	3365
	Inappropriate TCP Resets Considered Harmful	60	3360
	A Transient Prefix for Identifying Profiles under Development	59	3349
	Defining the IETF	58	3233
	IANA Considerations for IPv4 Internet Group Management Protocol (IGMP)	57	3228
	Guidelines for Evidence Collection and Archiving	55	3227
	On the use of HTTP as a Substrate	56	3205
	IETF Guidelines for Conduct	54	3184
	GLOP Addressing in 233/8	53	3180
	Management Guidelines & Operational Requirements for the Address and Routing Parameter Area Domain ("arpa")	52	3172
	IANA Guidelines for IPv4 Multicast Address Assignments	51	3171
	End-to-end Performance Implications of Links with Errors	50	3155
	Delegation of IP6.ARPA	49	3152
	End-to-end Performance Implications of Slow Links	48	3150
	Tags for the Identification of Languages	47	3066
	Recommended Internet Service Provider Security Services and Procedures	46	3013
	IETF Discussion List Charter	45	3005
	IANA Charset Registration Procedures	19	2978
	Use of HTTP State Management	44	2964
	Procedures and IANA Guidelines for Definition of New DHCP Options and Message Types	43	2939
	Domain Name System (DNS) IANA Considerations	42	2929
	Congestion Control Principles	41	2914
	Root Name Server Operational Requirements	40	2870
	Charter of the Internet Architecture Board (IAB)	39	2850

IETF Standards Track [Page 37]

 Network Ingress Filtering: Defeating Denial of Service Attacks which employ IP Source Address	38	2827
 Spoofing IANA Allocation Guidelines For Values In the Internet Protocol and Related Headers	37	2780
 Guidelines for Writers of RTP Payload Format Specifications	36	2736
 IAB and IESG Selection, Confirmation, and Recall Process: Operation of the Nominating and Recall Committees	10	2727
 Registration Procedures for URL Scheme Names	35	2717
 Changing the Default for Directed Broadcasts in Routers	34	2644
URN Namespace Definition Mechanisms	33	2611
Reserved Top Level DNS Names	32	2606
 Media Feature Tag Registration Procedure	31	2506
 Anti-Spam Recommendations for SMTP MTAs	30	2505
 Procedure for Defining New DHCP Options	29	2489
Enhancing TCP Over Satellite Channels using Standard Mechanisms	28	2488
 Advancement of MIB specifications on the IETF Standards Track	27	2438
 Guidelines for Writing an IANA Considerations Section in RFCs	26	2434
 IETF Working Group Guidelines and Procedures	25	2418
 RSVP over ATM Implementation Guidelines	24	2379
 Administratively Scoped IP Multicast	23	2365
 Guide for Internet Standards Writers	22	2360
 Expectations for Computer Security Incident	21	2350
Response		
 Classless IN-ADDR.ARPA delegation	20	2317
 IETF Policy on Character Sets and Languages	18	2277
 Use of DNS Aliases for Network Services	17	2219
 Selection and Operation of Secondary DNS Servers	16	2182
 Deployment of the Internet White Pages Service	15	2148
 Key words for use in RFCs to Indicate Requirement Levels	14	2119
 Internet Registry IP Allocation Guidelines	12	2050
 Multipurpose Internet Mail Extensions (MIME) Part Four: Registration Procedures	13	2048
 The Organizations Involved in the IETF Standards Process	11	2028
 The Internet Standards Process Revision 3	9	2026
 IRTF Research Group Guidelines and Procedures	8	2014
Implications of Various Address Allocation	7	2008
Policies for Internet Routing		
 Guidelines for creation, selection, and Registration of an Autonomous System (AS)	6	1930

Address Allocation for Private Internets	5	1918
An Appeal to the Internet Community to Return	4	1917
Unused IP Networks (Prefixes) to the IANA		
Variance for The PPP Compression Control Protocol	3	1915
and The PPP Encryption Control Protocol		
Addendum to RFC 1602 Variance Procedure	2	1871
Best Current Practices	1	1818

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 39]

# 3.7. Experimental Protocols

Mnemonic	Title	RFC#
	Dual Stack Hosts Using "Bump-in-the-API" (BIA)	3338*
	Policy-Based Accounting	3334*
	PGM Reliable Transport Protocol Specification	3208*
	Domain Security Services using S/MIME	3183
SMX	Script MIB Extensibility Protocol Version 1.1	3179
	ISO/IEC 9798-3 Authentication SASL Mechanism	3163
	Electronic Signature Policies	3125
	A DNS RR Type for Lists of Address Prefixes (APL RR)	3123
	Finding an RSIP Server with SLP	3105
	RSIP Support for End-to-end IPsec	3104
	Realm Specific IP: Protocol Specification	3103
	Realm Specific IP: Framework	3102
	OpenLDAP Root Service An experimental LDAP referral service	3088
	Notification and Subscription for SLP	3082
	MPLS Loop Prevention Mechanism	3063
	Internet X.509 Public Key Infrastructure Data	3029
	Validation and Certification Server Protocols	
	Unified Memory Space Protocol Specification	3018
SAP	Session Announcement Protocol	2974
	Protocol Independent Multicast MIB for IPv4	2934
MASC	The Multicast Address-Set Claim (MASC) Protocol	2909
	Generic AAA Architecture	2903
	DNS Extensions to Support IPv6 Address Aggregation and Renumbering	2874*
	TCP Congestion Window Validation	2861
TSWTCM	A Time Sliding Window Three Colour Marker (TSWTCM)	2859
	OSPF over ATM and Proxy-PAR	2844
PPP-SDL	PPP over Simple Data Link (SDL) using SONET/SDH with ATM-like framing	2823
	Diffie-Helman USM Key Management Information Base and Textual Convention	2786
	An HTTP Extension Framework	2774
	Encryption using KEA and SKIPJACK	2773
	Sampling of the Group Membership in RTP	2762
	Definitions of Managed Objects for Service Level	2758
	Agreements Performance Monitoring	
HTCP	Hyper Text Caching Protocol (HTCP/0.0)	2756
	RTFM: New Attributes for Traffic Flow Measurement	2724
	PPP EAP TLS Authentication Protocol	2716
	SPKI Certificate Theory	2693
	SPKI Requirements	2692
	QoS Routing Mechanisms and OSPF Extensions	2676
DNS	Binary Labels in the Domain Name System	2673*

IETF Standards Track [Page 40]

		0.550
	The becare appearent frame of free free free free free free free	2660
	becarie, execusions for mine	2659
	EDIT VZ CITCHE VB. CHC INGCA FICHI	2657
	regionation find and for some two types	2656
	or mach object format for born objects	2655
	A lagged flider object for use in the common flidering	2654
	Protocol	
	An LDAP Control and Schema for Holding Operation	2649
	Signatures	
	The NewReno Modification to TCP's Fast Recovery	2582
	Algorithm	
	Mapping between LPD and IPP Protocols	2569
IPP-RAT	Rationale for the Structure of the Model and Protocol	2568
	for the Internet Printing Protocol	
IPP-DG	Design Goals for an Internet Printing Protocol	2567
DNS-INFO	Detached Domain Name System (DNS) Information	2540
PHOTURIS	-E Photuris: Extended Schemes and Attributes	2523
PHOTURIS	-S Photuris: Session-Key Management Protocol	2522
ICMP-SEC		2521
NHRP-MNH	ICS NHRP with Mobile NHCs	2520
	URI Resolution Services Necessary for URN Resolution	2483
		2471
MARS-SCS		2443
TCP-WIN	Increasing TCP's Initial Window	2414
PIM-SM	Protocol Independent Multicast-Sparse Mode (PIM-	2362
	SM): Protocol Specification	
		2345
RTP-MPEG		2343
		2337
	using Sparse Mode PIM	2337
		2310
LDAP-NIS		2317
DDAI NIC	Service	2507
HTTP-RVS		2296
TCN-HTTE		2295
	IPO Telnet Com Port Control Option	2217
10P1=CON		2217
		2189
	Protocol Specification	2109
		21.60
	II IIIVIGI CONVENCION TOL GRING MILL IN OUV NEBOLGETON	2169
MAP-MAII		2162
MINTE OF	and Mail-11 mail	21.61
MIME-ODA	-	2161
OSPF-DIG		2154
IP-SCSI	Encapsulating IP with the Small Computer System	2143
FOO	Interface	0100
	ME Managing the X.500 Root Naming Context	2120
GKMP-ARC	H Group Key Management Protocol (GKMP) Architecture	2094

IETF Standards Track [Page 41]

GKMP-SPEC	Group Key Management Protocol (GKMP) Specification	2093
TFTP-MULTI	TFTP Multicast Option	2090
IP-Echo	IP Echo Host Service	2075
TOPT-CHARS	TELNET CHARSET Option	2066
URAS	Uniform Resource Agents (URAs)	2016
GPS-AR	GPS-Based Addressing and Routing	2009
ETFTP	Experiments with a Simple File Transfer Protocol	1986
D11 11		1000
	for Radio Links using Enhanced Trivial File	
	Transfer Protocol (ETFTP)	
BGP-RR	BGP Route Reflection An alternative to full mesh IBGP	1966
SMKD	Scalable Multicast Key Distribution	1949
SNMPV2SM	User-based Security Model for SNMPv2	1910
SNMPV2AI	An Administrative Infrastructure for SNMPv2	1909
SNMPV2CB	Introduction to Community-based SNMPv2	1901
	OSI NSAPs and IPv6	1888
DNS-LOC	A Means for Expressing Location Information in	1876
21.0 200	the Domain Name System	20.0
COME NO		1074
SGML-MT	SGML Media Types	1874
CONT-MT	Message/External-Body Content-ID Access Type	1873
UNARP	ARP Extension - UNARP	1868
BGP-IDRP	A BGP/IDRP Route Server alternative to a full	1863
DOI IDICI	mesh routing	1003
EGD3DEG		1051
ESP3DES	The ESP Triple DES Transform	1851
	SMTP 521 Reply Code	1846
	SMTP Service Extension for Checkpoint/Restart	1845
ST2	Internet Stream Protocol Version 2 (ST2) Protocol	1819
~	Specification - Version ST2+	_0_,
	<del>-</del>	1006
	Communicating Presentation Information in Internet	1806
	Messages: The Content-Disposition Header	
	Schema Publishing in X.500 Directory	1804
	MHS use of the X.500 Directory to support MHS Routing	1801
	Class A Subnet Experiment	1797
TCP/IPXMIB	<u> -</u>	1792
	TCP And UDP Over IPX Networks With Fixed Path MTU	1791
ICMP-DM	ICMP Domain Name Messages	1788
CLNP-MULT	Host Group Extensions for CLNP Multicasting	1768
OSPF-OVFL	OSPF Database Overflow	1765
	Remote Write Protocol - Version 1.0	1756
RWP		
NARP	NBMA Address Resolution Protocol (NARP)	1735
DNS-ENCODE	DNS Encoding of Geographical Location	1712
TCP-POS	An Extension to TCP: Partial Order Service	1693
T/TCP	T/TCP TCP Extensions for Transactions Functional	1644
-/	Specification	
NATIVE TIME	<u>-</u>	1 ( 1 1
MIME-UNI	Using Unicode with MIME	1641
FOOBAR	FTP Operation Over Big Address Records (FOOBAR)	1639
X500-CHART	Charting Networks in the X.500 Directory	1609
X500-DIR	Representing IP Information in the X.500 Directory	1608
	-1 5	

SNMP-DPI	Simple Network Management Protocol Distributed Protocol Interface Version 2.0	1592
CLNP-TUBA	Use of ISO CLNP in TUBA Environments	1561
REM-PRINT	Principles of Operation for the TPC.INT Subdomain:	1528
	Remote Printing Technical Procedures	
DASS	DASS - Distributed Authentication Security Service	1507
EHF-MAIL	Encoding Header Field for Internet Messages	1505
RAP	RAP: Internet Route Access Protocol	1476
TP-IX	TP/IX: The Next Internet	1475
	Routing Coordination for X.400 MHS Services Within	1465
	a Multi Protocol / Multi Network Environment	1105
	Table Format V3 for Static Routing	
	Using the Domain Name System To Store Arbitrary	1464
	String Attributes	1101
IRCP	Internet Relay Chat Protocol	1459
SIFT	SIFT/UFT: Sender-Initiated/Unsolicited File Transfer	1440
DIR-ARP	Directed ARP	1433
TEL-SPX	Telnet Authentication: SPX	1412
TEL-SPX TEL-KER	Telnet Authentication: SPX Telnet Authentication: Kerberos Version 4	1411
TRACE-IP	Traceroute Using an IP Option	1393
		1383
DNS-IP RMCP	An Experiment in DNS Based IP Routing	
_	Remote Mail Checking Protocol	1339
MSP2	Message Send Protocol 2	1312
DSLCP	Dynamically Switched Link Control Protocol	1307
	X.500 and Domains	1279
IN-ENCAP	Scheme for an internet encapsulation protocol:	1241
GING MID	Version 1	1020
CLNS-MIB	CLNS MIB for use with Connectionless Network Protocol	1238
	(ISO 8473) and End System to Intermediate	
GED D	System (ISO 9542)	1005
CFDP	Coherent File Distribution Protocol	1235
IP-AX.25	Internet protocol encapsulation of AX.25 frames	1226
ALERTS	Techniques for managing asynchronously generated	1224
	alerts	1004
MPP	Message Posting Protocol (MPP)	1204
SNMP-BULK	Bulk Table Retrieval with the SNMP	1187
DNS-RR	New DNS RR Definitions	1183
IMAP2	Interactive Mail Access Protocol: Version 2	1176
NTP-OSI	Network Time Protocol (NTP) over the OSI Remote	1165
	Operations Service	
DMF-MAIL	Digest message format	1153
RDP	Version 2 of the Reliable Data Protocol (RDP)	1151
	Standard for the transmission of IP datagrams	1149
	on avian carriers	
TCP-ACO	TCP alternate checksum options	1146
	The Q Method of Implementing TELNET Option Negotiation	1143
IP-DVMRP	Distance Vector Multicast Routing Protocol	1075
VMTP	VMTP: Versatile Message Transaction Protocol	1045

IETF Standards Track [Page 43]

COOKIE-JAR	Distributed-protocol authentication scheme	1004
NETBLT	NETBLT: A bulk data transfer protocol	998
IRTP	Internet Reliable Transaction Protocol functional	938
	and interface specification	
LDP	Loader Debugger Protocol	909
RDP	Reliable Data Protocol	908

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 44]

## 3.8. Historic Protocols

Mnemonic	Title	RFC#
IP-MAC	IP Authentication using Keyed SHA1 with Interleaved Padding (IP-MAC)	2841
L2F	Cisco Layer Two Forwarding (Protocol) "L2F"	2341
IPV6-UNI	An IPv6 Provider-Based Unicast Address Format	2073
HTML-INT	Internationalization of the Hypertext Markup Language	2070
	A Proposed Extension to HTML: Client-Side Image Maps	1980
HTML-TBL	HTML Tables	1942
IPV6-Addr	IP Version 6 Addressing Architecture	1884
	Form-based File Upload in HTML	1867
HTML	Hypertext Markup Language - 2.0	1866
BGP4/IDRP	BGP4/IDRP for IPOSPF Interaction	1745
	Assigned Numbers	1700*
	Definitions of Managed Objects for the Ethernet- like Interface Types	1623
DNS-R-MIB	DNS Resolver MIB Extensions	1612*
DNS-S-MIB	DNS Server MIB Extensions	1611*
	Manager-to-Manager Management Information Base	1451
	Party MIB for version 2 of the Simple Network Management Protocol (SNMPv2)	1447
	Security Protocols for version 2 of the Simple Network Management Protocol (SNMPv2)	1446
	Administrative Model for version 2 of the Simple Network Management Protocol (SNMPv2)	1445
TOPT-ENVIR	Telnet Environment Option	1408
BGP-OSPF	BGP OSPF Interaction	1403
SNMP-PARTY	Definitions of Managed Objects for Administration of SNMP Parties	1353
SNMP-SEC	SNMP Security Protocols	1352
SNMP-ADMIN	SNMP Administrative Model	1351
	Application of the Border Gateway Protocol in the Internet	1268
BGP3	Border Gateway Protocol 3 (BGP-3)	1267
OSI-UDP	OSI connectionless transport services on top of UDP: Version 1	1240
802.4-MIP	IEEE 802.4 Token Bus MIB	1230
SNMP-MUX	SNMP MUX protocol and MIB	1227
OIM-MIB-II	OSI internet management: Management Information Base	1214
IMAP3	Interactive Mail Access Protocol: Version 3	1203
CMOT	Common Management Information Services and Protocols for the Internet (CMOT and CMIP)	1189
	Application of the Border Gateway Protocol in the Internet	1164
BGP	Border Gateway Protocol (BGP)	1163

MIB-I	Management Information Base for network management of TCP/IP-based internets	1156
	Mapping between full RFC 822 and RFC 822 with restricted encoding	1137
	Privacy enhancement for Internet electronic mail: Part III - algorithms, modes, and identifiers	1115
	Privacy enhancement for Internet electronic mail:  Part II - certificate-based key management	1114
	Privacy enhancement for Internet electronic mail: Part I - message encipherment and authentication procedures	1113
IPSO	U.S. Department of Defense Security Options for the Internet Protocol	1108
RIP	Routing Information Protocol	1058
	Standard for the transmission of IP datagrams and ARP packets over ARCNET networks	1051
SUN-RPC	RPC: Remote Procedure Call Protocol specification	1050
CONTENT	Content-type header field for Internet messages	1049
NFILE	NFILE - a file access protocol	1037
SGMP	Simple Gateway Monitoring Protocol	1028
HEMS	High-level Entity Management System (HEMS)	1021
	Requirements for Internet gateways	1009
STATSRV	Statistics server	996
HOSTNAME	Hostname Server	953
POP2	Post Office Protocol: Version 2	937
HFEP	Proposed Host-Front End Protocol	929
RATP	Reliable Asynchronous Transfer Protocol (RATP)	916
THINWIRE	Thinwire protocol for connecting personal computers	914
	to the Internet	
SFTP	Simple File Transfer Protocol	913
EGP	Exterior Gateway Protocol formal specification	904
HMP	Host Monitoring Protocol	869
GGP	DARPA Internet gateway	823
RTELNET	Remote User Telnet service	818
CLOCK	DCNET Internet Clock Service	778
MPM	Internet Message Protocol	759
NETRJS	NETRJS Protocol	740
SUPDUP	SUPDUP Protocol	734
TOPT-OLD	Telnet output linefeed disposition	658
TOPT-OVTD	Telnet output vertical tab disposition option	657
TOPT-OVT	Telnet output vertical tabstops option	656
TOPT-OFD	Telnet output formfeed disposition option	655
TOPT-OHTD	Telnet output horizontal tab disposition option	654
TOPT-OHT	Telnet output horizontal tabstops option	653
TOPT-OCRD	Telnet output carriage-return disposition option	652

IETF Standards Track [Page 46]

NETED NETED: A Common Editor for the ARPA Network 569
RJE Remote Job Entry Protocol 407

[Note: an asterisk at the end of a line indicates a change from the previous edition of this document.]

IETF Standards Track [Page 47]

### 4. Security Coniderations

This memo does not affect the technical security of the Internet, but it does cite a number of important security specifications.

### 5. Editors' Addresses

Joyce K. Reynolds USC/Information Sciences Institute 4676 Admiralty Way Marina del Rey, CA 90292

Phone: +1 310-822-1511 Fax: +1 310-823-6714 EMail: jkrey@ISI.EDU

Robert Braden USC/Information Sciences Institute 4676 Admiralty Way Marina del Rey, CA 90292

Phone: +1 310-822-1511 Fax: +1 310-823-6714 EMail: braden@ISI.EDU

Sandy Ginoza USC/Information Sciences Institute 4676 Admiralty Way Marina del Rey, CA 90292

Phone: +1 310-822-1511 Fax: +1 310-823-6714 EMail: ginoza@ISI.EDU

Alison De La Cruz USC/Information Sciences Institute 4676 Admiralty Way Marina del Rey, CA 90292

Phone: +1 310-822-1511 Fax: +1 310-823-6714 EMail: delacruz@ISI.EDU

#### 6. Full Copyright Statement

Copyright (C) The Internet Society (2002). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

#### Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.